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The Cancer Burden in Kentucky: 1997 Incidence

Contributed by: Stephen Wyatt, DMD, MPH, Assistant Director for Cancer Control, University of Kentucky Markey Cancer Center and Thomas Tucker, MPH, Acting Associate Director for Cancer Control, University of Kentucky Markey Cancer Center; and Frances Ross, CTR, Statewide Coordinator, Kentucky Cancer Registry.

The Kentucky Cancer Registry (KCR) is a component of the Kentucky Cancer Program at the University of Kentucky's Lucille Parker Markey Cancer Center and is guided by Thomas Tucker, MPH and Frances Ross, CTR. The KCR is a population-based registry established by state law to collect and report on all cancers diagnosed and treated in Kentucky health care facilities. State funding and resources from the Centers for Disease Control and Prevention (CDC) support the Registry. The full and active participation of all 109 acute care hospitals in Kentucky helps insure that the report accurately reflects the burden of cancer in the Commonwealth. The hospitals, their medical staff, tumor registrars, and medical records personnel are essential partners in the operation of the registry. In 1998, the KCR was one of only 18 cancer registries to receive the North American Association of Central Cancer Registries (NAACCR) highest form of recognition, the Gold Certification.

Each year, the KCR produces a report to the governor, and the General Assembly on cancer incidence in Kentucky. This report is used to target the state's limited resources for cancer control activities to the areas with the greatest need.

In 1997, 19,716 cases of cancer (10,246 in females and 9,470 in males) were diagnosed and reported to the registry. The age-adjusted 1997 Kentucky incidence rate for all cases (including carcinoma in situ of the cervix) was 410.3 per 100,000 population. Kentucky incidence rates are higher than 1995 rates that are used as proxies for the United States as a whole. For comparison, the 1995 incidence rate from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) program, which covers approximately 10% of the U.S. population, was 392.0 per 100,000 population[1]. The 1996 Kentucky incidence rate for all cases (including carcinoma in situ of the cervix) was 420.2 per 100,000.

The most commonly diagnosed cancers in Kentucky during 1997 were; (1) Lung, (2) Breast, (3) Prostate, (4) Colon, and (5) Cervix (including in situ cases), the same "top five" as 1996. Table 1 shows the frequency and percent changes from 1996 to 1997 for the 10 most frequently diagnosed cancers. The 1997 five most commonly

Inside This Issue

Table 1. Ten most commonly diagnosed cancers, frequencies and % change – Kentucky, 1996 and 1997

	1996	1997	%
Trachea, bronchus &	3790	3572	-5.7
Breast, female & male	2834	2897	+2.2
Prostate	2122	2219	+4.6
Colon	1690	1685	-0.3
Cervix[1]	1256	1059	-15.7
Malignant	897	912	+1.7
Bladder	728	781	+7.3
Rectum/anus	720	717	-0.4
Non-Hodgkin's	691	617	-10.7
Unknown primary site	597	521	-15.7

[1]including carcinoma-in-situ

Table 2. Five most commonly diagnosed cancers, males and females – Kentucky, 1997

Males	Number	Females	Number
Prostate	2219	Breast	2886
Lung	2180	Lung	1392
Colon	806	Cervix[1]	1059
Bladder	581	Colon	879
Malignant mela-	494	Endometrium	445

[1]in- cludin car- cinoma-in-situ

The Cancer Burden in Kentucky: 1997 Incidence (continued from page 1)

diagnosed cancers for men and women are in Table 2.
The incidence of cancer for most sites increases with increasing age. Table 3 provides a breakdown of 1996 and 1997 age-specific incidence rates for all sites. Tables 4 and 5 are of 1996 and 1997 age-specific incidence rates for all sites for women and men.

Cancer incidence rates vary significantly by geographic region. Table 6 provides 1996 and 1997 cancer case counts and age-adjusted incidence rates for all 15 Kentucky Area Development Districts (ADD). Tables 7 and 8 provide the same information by ADD for females and males.

As a population-based cancer registry that covers the Commonwealth, data are available by county and by ADD. For county specific cases and rates, the data are available on the Kentucky Cancer Registry website at http://www.kcr.uky.edu. A link to this website has been established from the Kentucky Department for Public Health website (http://www.chsdphweb/). One must be cautious in interpreting rates at the county level due to the instability of rates

Table 3. Age-specific cancer incidence rates, all

	1996	1996	1997	1997
0-4	49	18.47	33	12.85
5-9	25	9.75	17	6.51
10-14	19	7.36	29	10.87
15-19	84	28.20	77	25.94
20-24	268	87.56	221	79.38
25-29	416	156.54	337	122.86
30-34	456	157.14	439	152.14
35-39	630	203.57	573	178.66
40-44	761	258.39	751	240.12
45-49	1162	421.01	1075	384.02
50-54	1369	644.32	1395	601.56
55-59	1791	997.50	1810	957.62
60-64	2273	1450.07	2217	1367.65
65-69	2824	1884.16	2775	1924.70
70-74	3014	2234.43	2869	2290.38
75-79	2493	2466.05	2311	2354.08
80-84	1616	2276.83	1566	2379.87
85 +	1254	2150.21	1221	2200.79
Total	20,504	527.95	19,716	504.49

Table 4. Age-specific female cancer incidence rates, all cases – Kentucky, 1996 & 1997

Ages	1996	1996	1997	1997
0 – 4	20	15.44	14	11.22
5 – 9	14	11.22	6	4.70
10 – 14	10	7.94	16	12.35
15 – 19	58	40.32	62	43.32
20 – 24	226	153.48	192	139.57
25 – 29	338	254.29	275	197.18
30 – 34	366	245.52	351	238.71
35 – 39	480	301.49	433	266.90
40 – 44	525	347.34	554	350.05
45 – 49	735	521.29	688	481.23
50 – 54	739	686.92	762	637.80
55 – 59	876	935.86	914	928.32
60 – 64	1032	1242.61	993	1157.21
65 – 69	1231	1497.22	1176	1496.01
70 – 74	1274	1649.04	1203	1690.75
75 – 79	1149	1859.37	1074	1818.40
80 – 84	828	1770.55	801	1852.67
85 +	736	1726.73	732	1825.07
Total	10,647	532.10	10,246	510.16

[1] per 100,000 population

Table 5. Age-specific male cancer incidence rates, all cases – Kentucky, 1996 & 1997

Ages	1996	1996	1997	1997
0 – 4	29	21.36	19	14.40
5 – 9	11	8.36	11	8.23
10 – 14	9	6.80	13	9.48
15 – 19	26	16.88	15	9.76
20 – 24	42	26.45	29	20.59
25 – 29	78	58.72	62	45.98
30 – 34	90	63.78	88	62.19
35 – 39	150	99.82	140	88.34
40 – 44	236	164.61	197	127.51
45 – 49	427	316.28	387	282.55
50 – 54	620	599.41	633	563.05
55 – 59	915	1064.63	896	989.48
60 – 64	1241	1683.85	1224	1604.34
65 – 69	1593	2354.35	1599	2438.65
70 – 74	1740	3019.16	1666	3078.86
75 – 79	1344	3420.02	1237	3163.12
80 – 84	788	3254.72	765	3389.91
85 +	518	3300.20	489	3181.11
Total	9857	523.53	9470	498.50

[1]per 100,000 population

Table 6. Age-adjusted cancer incidence rates by ADD, all cases – Kentucky, 1996 & 1997

ADD	1996	1996 Age-	1997	1997 Age-
Purchase	1212	448.85	1169	428.01
Pennyrile	1048	417.69	917	345.46
Green River	1045	404.82	991	392.62
Barren River	1253	423.47	1208	406.71
Lincoln Trail	1154	460.98	1019	415.43
KIPDA	4696	469.14	4798	484.60
Northern KY	1632	399.35	1461	358.04
Buffalo Trace	310	458.29	229	320.31
Gateway	369	450.34	387	468.42
FIVCO	745	415.97	761	446.98
Big Sandy	805	419.73	808	450.25
KY River	660	462.88	610	445.74
Cumb. Valley	1188	439.08	1078	397.42
Lake Cumb.	1068	431.38	1039	426.58
Bluegrass	3319	461.41	3241	459.73
Total	20,504	442.69	19,716	428.76

[1] per 100,000 population and age-adjusted to the 1970 US standard population

The Cancer Burden in Kentucky: 1997 Incidence (continued from page 2)

Table 7. Female age-adjusted cancer incidence rates by ADD, all cases – Kentucky, 1996 & 1997

ADD	1996	1996 Age-	1997	1997 Age-
Purchase	614	416.81	607	408.87
Pennyrile	530	386.46	449	302.40
Green River	522	360.05	481	343.52
Barren River	669	418.17	680	434.59
Lincoln Trail	585	431.26	500	373.14
KIPDA	2470	444.04	2443	433.49
Northern KY	891	393.42	779	334.64
Buffalo Trace	172	481.15	122	329.09
Gateway	201	452.74	216	504.43
FIVCO	351	360.71	398	431.26
Big Sandy	423	402.90	472	484.58
KY River	353	454.57	329	444.71
Cumberland Valley	578	385.96	550	369.41
Lake Cumberland	520	393.19	515	404.25
Bluegrass	1768	440.81	1705	431.23
Total	10,647	418.08	10,246	403.73

[1] per 100,000 population and age-adjusted to the 1970 US standard population

Table 8. Male age-adjusted cancer incidence rates by ADD, all cases – Kentucky, 1996 & 1997

ADD	1996	1996 Age-	1997	1997 Age-
Purchase	598	511.25	562	468.98
Pennyrile	518	476.53	468	404.06
Green River	523	472.67	510	472.38
Barren River	584	454.16	528	395.84
Lincoln Trail	569	517.22	519	487.18
KIPDA	2226	523.03	2355	573.33
Northern KY	741	424.22	682	402.43
Buffalo Trace	138	453.86	107	324.10
Gateway	168	461.06	171	447.63
FIVCO	394	500.01	363	482.52
Big Sandy	382	456.54	336	426.86
KY River	307	498.35	281	459.74
Cumberland Valley	610	520.16	528	445.84
Lake Cumberland	548	495.08	524	467.14
Bluegrass	1551	508.24	1536	511.73
Total	9857	493.40	9470	477.38

[1] per 100,000 population and age-adjusted to the 1970 US standard population

in those counties with very small populations.

Summary

The purpose of collecting this important disease burden information is not just for reports like this one. The real value lies in use of the data for program planning, resource allocation, program design, and evaluation. Data in the annual KCR report and on the website will be valuable resources for district and county health departments in assessing area health problems and in critical decision making about how to utilize limited intervention resources.

The Kentucky Cancer Registry will continue to work very closely with the Community Outreach Division of the Kentucky Cancer Program (KCP) to make these data available on an annual basis to District Cancer Councils to help guide their assessment and planning process. Local health departments and all health care providers are encouraged to actively participate in the District Cancer Councils and in the cancer control activities guided by the KCP regional community outreach coordinators. For additional information on cancer councils or to contact an outreach coordinatior, call Linda Linville, Ph.D. at 606-323-6541 or Connie Sorrell at 502-852-6318.

Reference

[1] Edwards B et al. NCI Surveillance, Epidemiology and End Results Program. Cancer

Kentucky Sexually Transmitted Disease Morbidity Trends

Slow but steady progress is being made in reducing sexually transmitted diseases (STD) in Kentucky. Chlamydial infections and gonorrhea pose serious health consequences to men and women, but women and the children they bear are the most seriously compromised. Undetected and untreated chlamydia and gonorrhea can lead to infertility, potentially fatal tubal pregnancies and chronic pelvic pain. If not quickly diagnosed and treated during pregnancy, gonorrhea and chlamydia can result in preterm delivery and conjuntival and pneumonic disease of the newborn.

Syphilis is caused by the spirochete *Treponema pallidum* and may be either acute or chronic. The disease is characterized by a primary lesion (hard chancre), a secondary eruption involving skin and mucous membranes, long periods of latency and late lesions of skin, bone, viscera, central nervous and cardiovascular systems. Syphilis is defined by distinct stages. Primary, secondary and early latent syphilis are considered early syphilis; late syphilis is disease greater than one year's duration. Untreated early infections in pregnant women frequently result in fetal infections.

The most commonly reported STD in Kentucky is infection caused by the bacteria *chlamydia trachomatis*. In 1998, 6,441 cases of chlamydia were reported in Kentucky compared with 6,296 in 1997 and only 43 in 1984 (Figure 1). The rise in chlamydia cases in Kentucky and nationally can be attributed to increased screening as the result of improved testing procedures and expanded screening programs. Prior to 1990, chlamydia was often clinically misdiagnosed as non-specific urethritis (NSU) or non-specific vaginitis (NSV) or went undetected and untreated.

Improved ability to detect new cases in local health department screening programs has resulted in dramatically increased reporting. For example, 61% (3,938) of chlamydia and 55% (2,163) of gonorrhea cases reported in Kentucky in 1998 were patients screened in local health department prenatal, family planning, STD and cancer detection clinics.

Gonorrhea has shown a steady decline for 15 years (Figure 2). In 1984, 10,169 cases were reported compared to 3,813 in 1998, a 62.5% decrease. Early syphilis cases have experienced periods of both increase and decrease since 1984. Between 1984 and 1989, cases decreased sharply from 193 to 118. But, even more dramatically, cases increased each year from 1990 through 1993 when 487 cases were reported. Since 1994, however, early syphilis cases have declined annually to a level of 207 in 1998 (Figure 3).

Figure 1. Number of chlamydial infections by year - Kentucky, 1984-1998

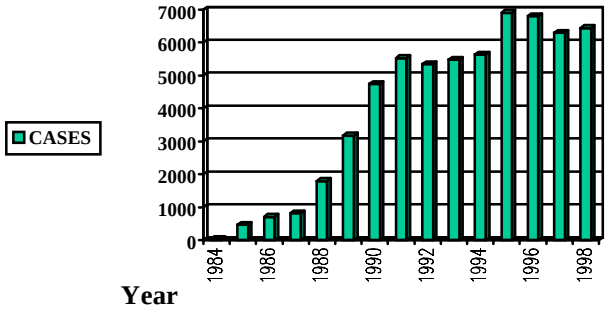


Figure 2. Number of gonorrhea cases by year - Kentucky, 1984-1998

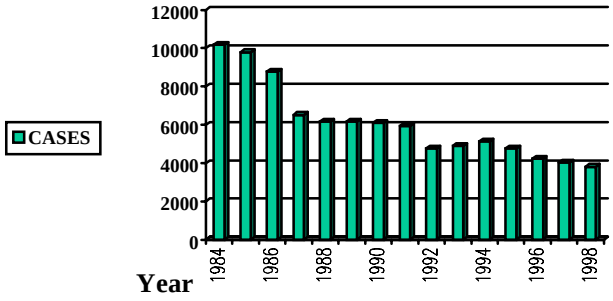
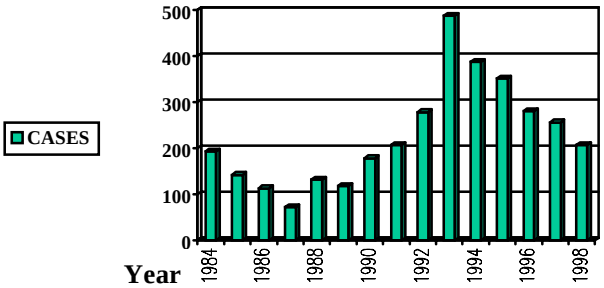


Figure 3. Number of early syphilis cases by year - Kentucky, 1984-1998



In 1998, 103 of 120 counties in Kentucky reported gonorrhea cases and all reported chlamydia cases. Seven counties including Christian, Fayette, Hardin, Jefferson, Kenton, McCracken and Warren accounted for 3,001 (79%) of the gonorrhea and 3,784 (59%) of the chlamydia cases (Figures 4 and 5). Although gonorrhea and chlamydia cases were reported in all age groups, adolescents and young adults were the most often reported. Patients between the ages of 15-24 years accounted for 62% of the gonorrhea and 78% of the chlamydia cases (Figure 6).

Kentucky Sexually Transmitted Disease Morbidity Trends (continued from page 4)

Figure 4. Number of gonorrhea cases by county - Kentucky, 1998

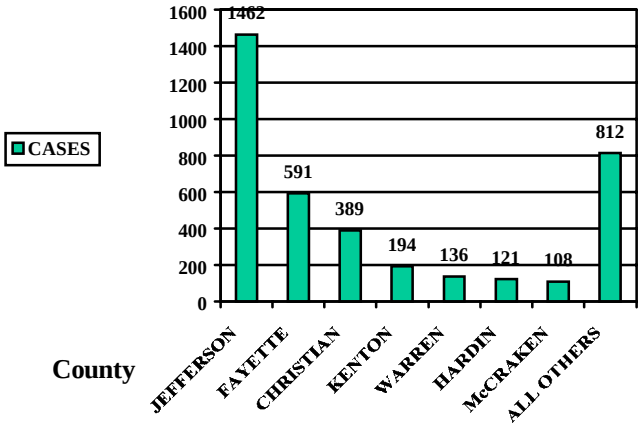


Figure 5. Number of chlamydial cases by county - Kentucky, 1998

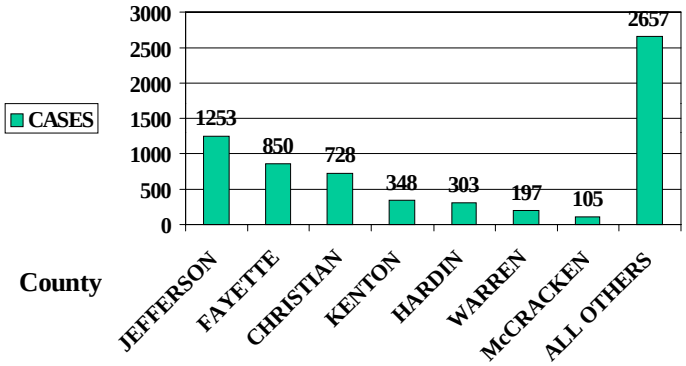
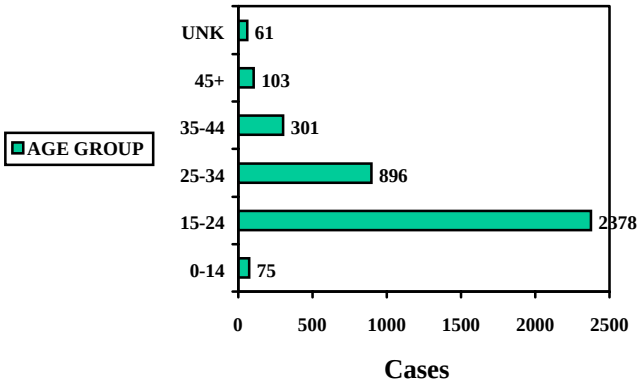


Figure 6. Number of gonorrhea cases by age group -



Although there has been a 57% decrease in early syphilis since 1993, (from 487 cases to 207), rates of syphilis in communities are greatly influenced by high-risk behaviors and practices that can quickly result in an epidemic. In 1998, only 13 counties reported early syphilis cases in Kentucky, however 91% of all such cases were reported by Jefferson (155 cases or 76%) and Fayette (32 cases or 15%) counties. In 1997, Louisville was 13th highest in early syphilis rates among U. S. cities with populations over 200,000.

For information regarding sexually transmitted disease in Kentucky and the United States write to: Sexually Transmitted Disease Control Program, Division of Epidemiology and Health Planning, Mail Stop HS1C-C, 275 East Main Street, Frankfort, KY 40621-0001 or call (502) 564-4804 or fax (502) 564-4553.

Submitted by: David A Raines, Manager, and George R. DeRoller, Assistant Manager, STD Control Program, Division of Epidemiology and Health Planning.

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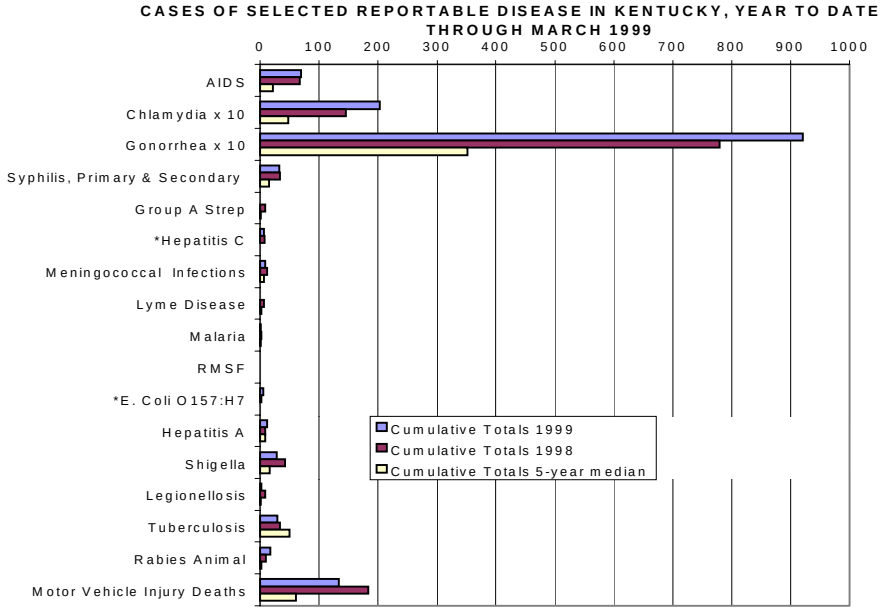

Vaccine Preventable Diseases - 1999

Diseases	1999 YTD	1998 ANNUAL TOTALS
Diphtheria	0	0
Haemophilus *influenza* B	3	7
Hepatitis B	7	44
Measles	0	0
Mumps	0	1
Pertussis	1	93
Polio	0	0
Rubella	0	0
Tetanus	0	0